

SCHOOL SOLAR SYSTEM DESIGN CALCULATOR

Calculated fields shaded BLUE

Data in non-shaded Entry fields needs to be replaced with your own

Design Factor	Data/ Calculation	Notes
SCHOOL ENERGY USE 2014		
Electricity Use (kWh)	1,000,000	Enter data gathered from school
Total energy cost per year	\$ 160,000	Enter data gathered from school
Average cost / kWh	\$ 0.16	Calculated by spreadsheet

SCHOOL SOLAR SYSTEM DESIGN

Using free software from HelioScope

Field segments	1	As drawn in HelioScope software on satellite photo of school
Type of solar PV panel	Sunpower SBR 220-BLKI (220W)	Selected in HelioScope software
Number of solar PV panels	1,335	Enter data as calculated by HelioScope software
Type of Inverter	Solectria	Enter as selected in HelioScope software
"Theoretical Nameplate Capacity kW DC output"	409	Enter kW DC as calculated by HelioScope software
Annual actual system AC kWh output for the specific school site	510,432	Annual AC kWh - Calculated by formula embedded in spreadsheet for location's irradiation factor (78% of 1600)
% of energy use offset	51%	

ESTIMATED COST OF SYSTEM

Typical total installed cost \$/watt	\$ 2.99	Source: Dovetail Solar
Installed cost	\$ 1,222,910.00	Calculated result

ECONOMICS

Annual Electric Savings \$\$	\$ 81,669.12	Calculated from above (school energy use per year - solar system output)
Annual Solar Energy Credit Income \$\$	\$ 76,564.80	Calculated from actual system output x SRECS @ approx \$150 per MWH
Annual Total \$\$	\$ 158,233.92	
Less Annual Payments \$\$	\$ 112,261.92	15 yr loan @ 4.5% fixed on system total cost (principal+interest)
ANNUAL NET SAVINGS \$\$	\$ 45,972.00	